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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/764,368

01/23/2004

Norman Van Meeteren

1379-013

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04/14/2006

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EXAMINER

COLLINS, CYNTHIA E

ART UNIT

PAPER NUMBER

1638

DATE MAILED: 04/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/764,368	Applicant(s) VAN MEETEREN, NORMAN	
	Examiner Cynthia Collins	Art Unit 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 23 January 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>4/05, 12/05</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-29 are pending and are examined.

Information Disclosure Statement

Initialed and dated copies of Applicant's IDS forms 1449 filed April 15, 2005 and December 6, 2005 are attached to the instant Office action.

Drawings

No drawing has been submitted in the instant application.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 8 and 9 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims are drawn to hybrid soybean seeds and plants wherein one of the parents is soybean cultivar SG5030NRR and the other parent plant is not specified. The hybrid plants are not disclosed in the specification or defined by genomic structure or by phenotypic

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characteristics, and it is unclear what characteristics of soybean cultivar SG5030NRR would be present in the claimed hybrid seeds and plants. Due to the segregation and recombination of the parent genomes during meiosis, one cannot predict what traits or combinations of traits will be passed on to any given hybrid seed and plant. In fact, *each* hybrid seed derived from a cross between two genetically distinct parent plants will have unique combinations of characteristics.

See *University of California v. Eli Lilly*, 119 F.3d 1567, 43 USPQ 2d 1405 (Fed. Cir. 1997), where it states: “[a] written description of an invention involving a chemical genus, like a description of a chemical species, ‘requires a precise definition, such as by structure, formula, [or] chemical name,’ of the claimed subject matter sufficient to distinguish it from other materials.”

In the instant case the specification does not reasonably convey to those skilled in the art that the applicant was in possession of the claimed invention as of the date of invention because Applicant has not described the structural and physical characteristics of the claimed compositions.

Claims 1-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The invention appears to employ the seed of novel plants. Since the seed claimed is essential to the claimed invention, it must be obtainable by a repeatable method set forth in the specification or otherwise be readily available to the public. If a seed is not so obtainable or

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available, the requirements of 35 U.S.C. 112 may be satisfied by a deposit thereof. The specification does not disclose a repeatable process to obtain the exact same seed in each occurrence and it is not apparent if such a seed is readily available to the public.

If the deposit of these seeds is made under the terms of the Budapest Treaty, then an affidavit or declaration by the applicants, or a statement by an attorney of record over his or her signature and registration number, stating that the seeds will be irrevocably and without restriction or condition released to the public upon the issuance of a patent would satisfy the deposit requirement made herein. A minimum deposit of 2500 seeds is considered sufficient in the ordinary case to assure availability through the period for which a deposit must be maintained.

If the deposit has not been made under the Budapest Treaty, then in order to certify that the deposit, meets the criteria set forth in 37 CFR 1.801-1.809, applicants may provide assurance of compliance by an affidavit or declaration, or by a statement by an attorney of record over his or her signature and registration number showing that

(a) during the pendency of the application, access to the invention will be afforded to the Commissioner upon request;

(b) all restrictions upon availability to the public will be irrevocably removed upon granting of the patent;

(c) the deposit will be maintained in a public depository for a period of 30 years or 5 years after the last request or for the enforceable life of the patent, whichever is longer;

(d) the viability of the biological material at the time of deposit will be tested (see 37 CFR 1.807); and

(e) the deposit will be replaced if it should ever become inviable.

Claims 23-29 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 23-29 are directed to a method of introducing a desired trait into soybean cultivar SG5030NRR wherein the method comprises: (a) crossing the SG5030NRR plants with plants of another soybean cultivar that comprise a desired trait to produce progeny plants, (b) selecting F1 progeny plants that have the desired trait (c) crossing the selected progeny plants with the SG5030NRR plants to produce backcross progeny plants, (d) selecting for backcross progeny plants that have the desired trait and physiological and morphological characteristics of soybean cultivar SG5030NRR to produce selected backcross progeny plants; and (e) repeating steps (c) and (d) one or more times in succession to produce selected second or higher backcross progeny plants that comprise the desired trait and all of the physiological and morphological characteristics of soybean cultivar SG5030NRR listed in Table 1, and to plants produced by said method.

The claimed invention is not enabled because it is unpredictable whether the gene or genes responsible for conferring a phenotype in one plant genotypic background may be introgressed (backcrossed) into the genetic background of a different plant by repeating steps (c) and (d) one or more times in succession to produce selected second or higher backcross progeny

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plants that comprise the desired trait and all of the physiological and morphological characteristics of soybean cultivar SG5030NRR listed in Table 1.

See, for example, Hunsperger et al. (1996, U.S. Patent 5,523,520), who teach that the introgression of a gene in one genetic background in any plant of the same species, as performed by sexual hybridization, is unpredictable in producing a single gene conversion plant with a desired trait (see, e.g., column 3, lines 26-46). In particular, Hunsperger et al. teach that a gene conferring miniature plant stature which has been identified and genetically stabilized in one cultivar of *Petunia hybrida*, a member of the *Solanaceae*, does not confer a miniature phenotype when introgressed into the genome of a variety of other *Petunia hybrida* cultivars (see, e.g., column 3, lines 40-41).

See also, for example, Kraft T. et al. (Linkage Disequilibrium and fingerprinting in sugar beet. Theor. Appl. Genet. 2000; 101:323-326), who teach that linkage disequilibrium effects and linkage drag prevent the making of plants comprising a single gene conversion, and that such effects are unpredictably genotype- specific and loci-dependent in nature (see, e.g., page 323). Kraft et al. also teach that linkage disequilibrium is created in breeding materials when several lines become fixed for a given set of alleles at a number of different loci, and that very little is typically known about the plant breeding materials, which contributes to the unpredictability of the effect.

See additionally, for example, Eshed Y. et al (Less-than-additive epistatic interactions of quantitative trait loci in tomato. Genetics. 1996 Aug;143(4):1807-17), who teach that in plants, epistatic genetic interactions from the various genetic components comprising contributions from different genomes may affect quantitative traits in a genetically complex and less than additive

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fashion (see, e.g., page 1815). See also the paragraph bridging pages 2 and 3 of the instant specification, which teaches that conventional soybean breeding is unpredictably influenced by environmental conditions under which breeder selection occurs and lack of selection for particular genes, wherein the characteristics of the final lines cannot be predicted, and wherein the same lines cannot be repeated even with the same parents.

In the instant case the specification does not provide sufficient guidance with respect to how to introgress (backcross) a desired trait into the genetic background of a different plant by repeating steps (c) and (d) one or more times in succession to produce selected second or higher backcross progeny plants that comprise the desired trait and all of the physiological and morphological characteristics of soybean cultivar SG5030NRR listed in Table 1. Absent such guidance, undue experimentation would be required by one skilled in the art to overcome the difficulties and unpredictability of practicing the method as claimed.

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 5, 6, 22, 23, 24, 28 and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Dependent claims are included in all rejections.

Claims 1, 6, 22, 23 and 28 are indefinite in their recitation of "ATCC Accession No. PTA-_____", because the ATCC Accession No. is missing.

Claims 1, 6, 22, 23, 24, 28 and 29 are indefinite in the recitation of "SG5030NRR", given that a name does not clearly identify the claimed soybean cultivar and seed, and does not set

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forth the metes and bounds of the claimed invention. Since the name SG5030NRR is not known in the art, the use of said name does not carry art recognized limitations as to the specific characteristics or essential characteristics which are associated with that denomination. In addition, the name appears to be arbitrary and the specific characteristics associated therewith could be modified, as there is no written description of the soybean plant that encompasses all of its traits. Amending the claims to recite the ATCC deposit number would overcome the rejection.

Claim 5 is indefinite because many of the members of the Markush group are not tissue types, but rather are cell types or organ types, and hence do not further define "tissue".

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8 and 9 are rejected under 35 U.S.C. 102(b) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Brown E.A. (US Patent 6,121,516, filed December 14, 1998 and issued September 19, 2000).

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Applicants have claimed a plant derived from soybean cultivar SG5030NRR after at least one cross and using unspecified second parents, and a method of crossing using said plants. In addition, some of the claims specify that at least two designated characteristics would be present in the claimed soybean. However, it appears that the claimed plants and seeds are the same as the prior art soybean cultivar 96-060167, given that each has the same characteristics, including: yellow seed coat color, dull seed coat luster, buff hilum color, yellow cotyledon color, ovate leaflet shape, purple flower color, tan pod color, gray pubescence color, and Maturity Group V, for example. Alternatively, if the claimed plants and seeds derived from soybean cultivar SG5030NRR are not identical to soybean cultivar 96-060167, then it appears that soybean cultivar 96-060167 only differs from the claimed plants and seeds due to minor morphological variation, wherein said minor morphological variation would be expected to occur in different progeny of the same cultivar, and wherein said minor morphological variation would not confer a patentable distinction to a plant derived from soybean cultivar SG5030NRR. Similarly, the methods of crossing SG5030NRR -derived soybeans would be the same as the methods of crossing prior art soybean cultivar 96-060167 or its progeny. Thus the claimed invention was *prima facie* obvious as a whole to one of ordinary skill in the art at the time it was made, if not anticipated by soybean cultivar 96-060167 soybean plants or their progeny and methods of their use.

Remarks

No claim is allowed.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cynthia Collins whose telephone number is (571) 272-0794. The examiner can normally be reached on Monday-Friday 8:45 AM -5:15 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571) 272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Cynthia Collins
Primary Examiner
Art Unit 1638

CC


4/7/06